PATENT
Attorney Docket No: 27866/32960

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	)	For: Chitinase Materials and Methods
	)	
Patrick W. Gray	)	
	)	Group Art Unit: 1652
Serial No. 08/663,618	)	
	)	
Filed: June 14, 1996	)	Examiner: R. Prouty

#20

DECLARATION OF HEATHER BRAMMER
UNDER 37 C.F.R. §1.608(b) IN SUPPORT OF REQUEST
FOR INTERFERENCE WITH U.S. PATENT NO. 5,928,928

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

I, Heather Brammer, declare that:

1. I am a citizen of the United States currently residing at 9723 214th Place SouthWest, Edmonds, Washington 98020, U.S.A.

2. I submit this Declaration for the purpose of relating facts known to me concerning the identification, isolation and sequencing of portions of DNA encoding human chitinase, which is described in the above-identified application. The activities described herein took place at ICOS Corporation, Bothell, Washington, U.S.A., during the period prior to June 7, 1995.

3. My education background and research experience is as follows: I received a B.A. degree in Anthropology from the University of Washington in December 1998. From April 1995 to October 1997, I was employed as an intern at ICOS Corporation. From November 1997 to the present, I have been employed as a Research Associate II by ICOS Corporation.

4. While employed as an intern at ICOS Corporation, I was required to and did keep a permanent notebook record of the work I had done and results I observed. These notebooks were the property of ICOS Corporation and are retained in safekeeping on the premises of the company. It was my general practice to record in my notebook all experimental work which I performed, to contemporaneously sign and date my notebook records and to refrain from adding any information to any page after the date of signing. At that time, my maiden name was Heather Pearson rather than Heather Brammer, so the name that appears at the bottom of each notebook page is Heather Pearson. It was also my general practice to have my signed and dated notebook pages witnessed and dated by another ICOS employee. All notebook materials attached as Exhibits hereto are true copies (with dates covered) from the original notebooks maintained in safekeeping at ICOS Corporation.

5. During the period prior to June 7, 1995, I worked at the direction of and under the supervision of Dr. Patrick W. Gray at the ICOS Corporation sequencing cDNA inserts of clones from a human macrophage cDNA library.

6. On page 13 of my Notebook No. 1065 attached as Exhibit 1 hereto, I noted that I had requested the nucleotide sequences of cDNA inserts of eight different clones from a human macrophage cDNA library and that I had compared these nucleotide sequences with other known sequences in the Genbank databases using the BLAST Network Service of the National Center for Biotechnology Information. The top left portion of the notebook page shows the DNA sequencing request for a number of plasmids. The bottom portion of the notebook page lists the following information for each plasmid: (1) the plasmid name (*e.g.*, MO911), (2) the identification number for the readout of data from the DNA sequencing machine (*e.g.*, mc17705), and (3) a description of the closest related sequence found during the BLAST search.

7. Of particular interest on page 13 of Notebook No. 1065 (Exhibit 1) is the line relating to the clone designated MO911, which contained a portion of cDNA encoding human chitinase. The line reads as follows:

"MO911 mc17705 hum. glycoprotein mRNA 63% (157/248) M80922"

This notebook page is dated prior to June 7, 1995.

8. When I recorded a sequence identification number (*e.g.*, "mc17705") and information from the BLAST search (*e.g.*, "hum. glycoprotein mRNA 63% (157/248) M80922") in my notebook, it was my general practice to place the underlying data associated with each record contemporaneously in a binder which was maintained in safekeeping on the premises of ICOS Corporation. Original printouts of the data from the DNA sequencing machine and printed copies of the emails reporting BLAST search results were kept in this binder. Each sequence

printout or email printout displayed the date on which the information was received and additionally displayed the relevant sequence identification number, *e.g.*, "mc17705". It was also my general practice to refrain from modifying or replacing any of the printouts once they were placed in the binder. All copies of the printouts attached as Exhibits hereto are true copies (with dates covered) from the original binder maintained in safekeeping at ICOS Corporation.

9. A copy of the readout of data from the DNA sequencing machine for clone MO-911 is attached hereto as Exhibit 2. The top of the page shows the name of the clone ("MO911") and the associated sequence number ("mc17705"). The date of this readout is prior to June 7, 1995.

10. A copy of an email reporting the BLAST search results for the MO-911 sequence (identified as sequence number "17705" in the subject field) is attached hereto as Exhibit 3. The search results list a number of chitinases and chitinase-like mammalian proteins, e.g. human glycoprotein mRNA, *Sus scrofa* 38kDa heparin-binding glycoprotein, *Manduca sexta* chitinase mRNA, *B. circulans* chitinase, *T. harzianum* endochitinase, etc. This email is dated prior to June 7, 1995.

11. As described in Example 1 of the application, the plasmid designated MO-911 was identified and characterized as containing a portion of the coding region for a human chitinase homolog. The documents attached hereto as Exhibits 1, 2 and 3 demonstrate that, prior to the June 7, 1995 filing date of U.S. Patent No. 5,928,928, the cDNA insert of plasmid MO-

911 had been partially sequenced and characterized as a chitinase by comparison with other known sequences in nucleotide and peptide sequence databases.

12. All of the work and data recorded in the documents attached hereto as Exhibits 1, 2 and 3 was performed prior to June 7, 1995.

13. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 10 of the United States Code and that such willful false statements may jeopardize the validity of the instant patent application and any patent issuing thereon.

10/29/99
Date

Heather A. Brammer
Heather Brammer

Project No. 16

TITLE _____ Book No. 1065

From Page No.__

Sent 8 samples back to microchemistry to read from other end. - MΦ #'s 902, 904, 908, 911, 912, 913, 917, 918

DNA SEQUENCING REQUEST
Microchemistry Department

Requested by Heather Pearson Date

Notebook Reference(required): 95-1065 p. 13 Project: 16

Vector: PRC CMV Host: XL1 # of Clones 8
(Please indicate size)

Names of Sample(s): MΦ 902, 904, ~~905~~ 913, 908, 911, 912, 917, 959
(Please provide OD260 and insert size)

Sequencing Primer(s): OC03
(Note: sequencing primers should be at 3ug/ml)

Check one
- ☐ Long run (~14 hrs/~550bp)
- ☒ Short run (~7hrs/~300bp) Data can be provided the same day samples are run

Check one
- ☒ DS-DNA template (we need 1ug/rxn. of primer)
- ☐ SS-DNA template (we need 500ng/rxn. of primer)
- ☐ PCR fragment (amt. we need depends on size and purity)
- ☐ Phage lysate

All templates will be sequenced with Taq-Dye Terminator Chemistry.

Other Instructions:

MΦ 902 MC 17701 H.S. cDNA clone 1 100% (65/65) T9039S
MΦ 904 MC 17702 HS. cDNA 5' end 96% (246/255) T32201
MΦ 908 MC 17704 HS. cDNA Clone 112 95% (227/240) T85702
911 MC 17705 hum. glycoprotein mRNA 63% (157/248) M80927
912 MC 17706 Rat n.c.v. Sprague Dawley cDNA 100% (176/176) U08336
913 MC 17703 Bovine microsatellite 65% (42/61) L37252
917 MC 17707 Beef Sequence
~~959~~
959 MC 17705 HS. cDNA Clone 75114 3' 78% (132/132) T61662

To Page No.____

Witnessed & Understood by me,	Date	Invented by	Date
Bart H Steiner			
		Recorded by Heather Pearson	

ABI PRISM

Model 3[illegible]
Version . .1A

mc17705
DCO3 primer
MO911
Lane 32

Signal G:175 A:123 T:51 C:[illegible]
DyeTerminator{AnyPrimer}
197 MATRIX FILE
Points 343 to 8144 Base 1: 343

Spacing: 11.63 Adaptive

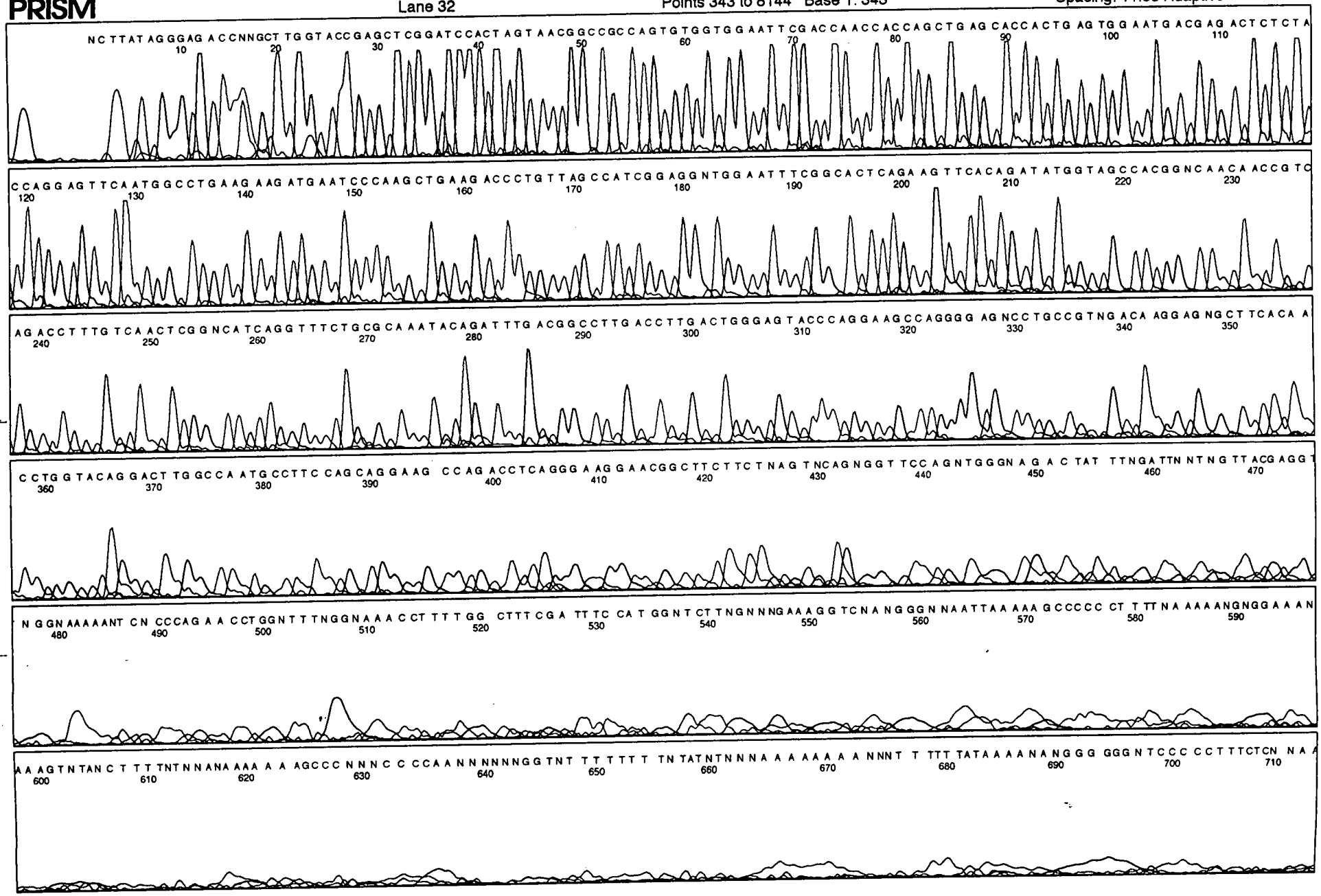

EXHIBIT 2

cc:Mail for: heather.pearson

Subject: Re: 17705
From: "NCBI BLAST E-Mail Server" <blast@ncbi.nlm.nih.gov>
To: Heather Pearson

gb|M80927|HUMHA3G	Human glycoprotein mRNA, complete cds.	427	6.2e-26	1
gb|U19900|SSU19900	Sus scrofa 38kDa heparin-binding gly...	358	4.6e-20	1
gb|U02270|MSU02270	Manduca sexta chitinase mRNA, comple...	308	8.2e-16	1
gb|M57601|BACCHIA3	B.circulans chitinase A1 (chiA) gene...	223	1.2e-08	1
gb|L14614|TRRENDOCHI	Trichoderma harzianum endochitinase ...	173	0.00020	1
emb|X79381|THECH42	T.harzianum (IMI 206040) ech-42 gene.	173	0.00020	1
emb|X64104|AACHI1A	A.album chi1 gene for chitinase	130	0.56	1
gb|U13646|CELZK783	Caenorhabditis elegans cosmid ZK783.	129	0.65	1
dbj|D12647|STMCHIC	S.lividans gene for chitinase C, com...	124	0.93	1
gb|M82804|STMCHTA	Streptomyces plicatus chitinase 63 (...	124	0.93	1
gb|T92100|T92100	ye01h11.r1 Homo sapiens cDNA clone 1...	123	0.94	1
emb|X15208|SMCHIB	Serratia marcescens chiB gene for ch...	119	0.9991	1
emb|Z36295|SHCHITB	S.marcescens (BJL200) chiB gene for ...	119	0.9991	1

>gb|M80927|HUMHA3G Human glycoprotein mRNA, complete cds.
Length = 1741
Plus Strand HSPs:
Score = 427 (118.0 bits), Expect = 6.2e-26, P = 6.2e-26
Identities = 157/248 (63%), Positives = 157/248 (63%), Strand = Plus / Plus

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Query:     2 ACCAACCACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAAT 61
             | |||| | ||  |   ||||  |||||||||||| | ||| ||||||     | ||||
Sbjct:   255 AGCAACGATCACATCGACACCTGGGAGTGGAATGATGTGACGCTCTACGGCATGCTCAAC 314

Query:    62 GGCCTGAAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGNTGGAATTTC 121
               || ||||| | ||| ||||| |||||||| || ||  |  ||||||| ||||| ||
Sbjct:   315 ACACTCAAGAACAGGAACCCCAACCTGAAGACTCTCTTGTCTGTCGGAGGATGGAACTTT 374
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>gb|U19900|SSU19900 Sus scrofa 38kDa heparin-binding glycoprotein mRNA, complete cds. >emb|Z47803|SSGP38KD S.scrofa 38kDa heparin-binding glycoprotein.
Length = 1733
Plus Strand HSPs:
Score = 358 (98.9 bits), Expect = 4.6e-20, P = 4.6e-20
Identities = 148/245 (60%), Positives = 148/245 (60%), Strand = Plus / Plus

```
Query:     2 ACCAACCACCAGCTGAGCACCACTGAGTGGAATGACGAGACTCTCTACCAGGAGTTCAAT 61
             | |||| |  || |   ||||  |||||||||||| | ||| |||||  |     | ||
Sbjct:   250 AGCAACAATGAGATTGACACCTTGGAGTGGAATGATGTGACGCTCTATGACACACTGAAC 309

Query:    62 GGCCTGAAGAAGATGAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGNTGGAATTTC 121
               || ||||| | ||| ||||| ||||||||||  |  |  | ||||| ||||| ||
Sbjct:   310 ACACTCAAGAACAGGAACCCCAACCTGAAGACCCTCCTGTCTGTTGGAGGATGGAACTTT 369
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>gb|U02270|MSU02270 Manduca sexta chitinase mRNA, complete cds.
Length = 2452
Plus Strand HSPs:
Score = 308 (85.1 bits), Expect = 8.2e-16, P = 8.2e-16
Identities = 110/172 (63%), Positives = 110/172 (63%), Strand = Plus / Plus

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Query:    76 GAATCCCAAGCTGAAGACCCTGTTAGCCATCGGAGGNTGGAATTTCGGCACTCAGAAGTT 135
             | ||||||   | |||  | ||  ||||  | ||  || |||  |   ||||  |  |||||
Sbjct:   309 GCATCCCAGCGTCAAGTTCATGGTAGCGGTGGGCGGCTGGGCTGAAGGCAGTTCGAAGTA 368
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